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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,135	03/31/2004	Kemal Ozanoglu	03-S-052	9179

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STMICROELECTRONICS, INC.  
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EXAMINER
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NEGRON, DANIEL L

ART UNIT	PAPER NUMBER
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2627

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/13/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/815,135

Applicant(s)

OZANOGLU ET AL.

Examiner

Daniell L. Negrón

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,6,10,11,15,16 and 22-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,6,10,11,15 and 16 is/are allowed.
- 6) ☒ Claim(s) 22-24 and 26 is/are rejected.
- 7) ☒ Claim(s) 25 and 27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States:

2. Claim 24 is rejected under 35 U.S.C. 102(b) as being anticipated by Sutardja U.S. Patent No. RE 37,751 E.

Regarding claim 24, Sutardja discloses a preamplifier for processing read head signals to correct for thermal asperity transients, comprising an input gain stage (102 or 103) receiving a read head signal from the read head, a correction circuit comprising a filter controller (204) detecting a thermal asperity transient in the read head signal and generating a control signal (i.e., TA\_Interval) based on the detecting and further comprising a filter (210) operating dynamically based on the control signal to filter the read head signal on an ongoing basis to produce a filtered read head signal (Fig. 2E), wherein an amount of filtering performed by the filter varies with the control signal (see TA\_Interval of Fig. 2E), and a reader output buffer (108) receiving and transmitting the filtered read head signal.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter, as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 22, 23, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sutardja U.S. Patent No. RE 37,751 E in view of Eliezer et al U.S. Patent No. 6,735,260.

Regarding claims 22 and 23, Sutardja discloses a preamplifier to correct for thermal asperity transients in output signals of the MR read head comprising, an input gain device (202) receiving an output signal from the MR read head, output buffer device (108) outputting a reader output signal to a read channel, a high pass filter (210) connected in series between the input gain device and the output buffer device (column 5, lines 39-44), the high pass filter filtering an output of the input gain device based on an input voltage control signal (from 204, see Fig. 2B) and a filter controller (204) comprising a low pass filter (220), but fails to explicitly disclose the filter controller having a non-linear function generator, adapted to produce an increasing function of an absolute value of the output of the low pass filter.

However, since non-linear function generator is considered an art recognized equivalent known for the same purpose as supported by Eliezer et al (column 8, line 65 through column 9, line 11), it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a non-linear function generator for the purpose of generating a control signal with the preamplifier disclosed by Sutardja in order to dynamically control the high pass filter (In re Ruff, 256 F.2d 590, 118 USPQ 340 (CCPA 1958)).

Regarding claim 26, claim 26 has limitations similar to those treated in the above rejection of claims 22 and 23, and are met by the references as discussed above.

***Allowable Subject Matter***

5. Claims 1, 2, 6, 10, 11, 15, and 16 are allowed.
6. The following is an examiner's statement of reasons for allowance:

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Reasons for allowance are as discussed in the previous Office action mailed October 3, 2006.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

7. Claims 25 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 25, prior art fails to disclose or suggest a preamplifier for processing read head signals to correct for thermal asperity transients comprising all the limitations of the preamplifier of claim 24 further wherein the amount of filtering comprises setting a default low corner frequency as a function of the read head signal, and wherein the voltage-controller high pass filter is controlled by the control signal to vary the amount of the filtering over time to return a corner frequency of the filter to the default low corner frequency when a thermal asperity transient is not detected by the correction circuit.

Regarding claim 27, prior art fails to disclose or suggest a preamplifier for processing read head signals to correct for thermal asperity transients comprising all the limitations of the preamplifier of claim 26 further wherein the non-linear function generator comprises  $(|V_{IN}|/V_C)^4$  or  $e^{|V_{IN}|/V_C}$  wherein  $V_{IN}$  is the output of the detector and  $V_C$  is a control coefficient.

*Prior Art*

Cunningham U.S. Patent No. 5,497,111 is cited as of interest for disclosure of an apparatus for detecting and correcting thermal asperity transients in a read head circuit.

*Conclusion*

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniell L. Negrón whose telephone number is 571-272-7559. The examiner can normally be reached on Monday-Friday (8:30am-5:00pm).

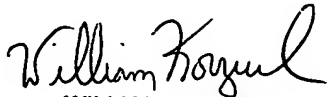
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on 571-272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DLN 

March 6, 2007

  
WILLIAM KORZUCH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600